

Goal 4: Preventing Pollution and Reducing Risk in Communities, Homes, Workplaces and Ecosystems

Pollution prevention and risk management strategies aimed at eliminating, reducing, or minimizing emissions and contamination will result in cleaner and safer environments in which all Americans can reside, work and enjoy life. EPA will safeguard ecosystems and promote the health of natural communities that are integral to the quality of life in this nation.

Background and Context

The underlying principle of the activities in this goal is the application of pollution prevention. Preventing pollution before it may harm the environment or public can be cheaper than cleanup and remediation that may be more costly. EPA uses a number of approaches to protect public health and the nation's ecosystems from the risks of exposure to pesticides and/or toxic chemicals.

While EPA continues to implement "the reasonable certainty of no harm" standard mandated by the Food Quality Protection Act (FQPA) in its regulatory decisions, it also works with pesticide users on adopting less toxic methods of pest management that reduce or eliminate toxic pesticides entering indoor and outdoor environments.

Regarding industrial emissions of toxic chemicals, in 2000, TRI facilities reported 7.1 billion pounds of TRI reported chemicals released to the environment, 3.2 billion pounds recovered for energy and 14.3 billion pounds of waste treated.¹ This represents a decrease of eight percent or 0.6 billion pounds over the previous year. Reducing waste, and reducing the toxic chemicals that are used in industrial processing, protects the environment and also improves efficiency, thereby lowering costs for industry.

Pollution prevention involves changing the behavior of those that generate the pollution and fostering the wider use of preventive practices as a means to achieve cost effective, sustainable results. For example, the Design for the Environment and Green Chemistry programs strive to change the behavior of chemists and engineers to incorporate pollution prevention and environmental risk considerations in their daily work. The Strategic Agricultural Partnership Initiative and the Pesticide Environmental Stewardship Program cooperate with USDA, States, and non-governmental organizations to demonstrate with farmers integrated pest management strategies that reduce pesticide residues in the environment.

In Goal 4, the Agency targets certain chemicals of high risk as well as the full range of pollutants addressed by the pollution prevention program. Many chemicals are

particularly toxic to children. For instance, at high levels, lead damages the brain and nervous system and can result in behavioral and learning problems in children.² Despite a dramatic reduction in lead exposure among young children over the last twenty years due in large part to reduction in United States use of leaded gasoline, there were still approximately 900,000 children in the United States with elevated blood lead levels in the early 1990's, due primarily to exposure to lead-based paint and dust.³ Data from the Center for Disease Control's (CDC's) 2000 National Health and Nutrition Evaluation Survey (NHANES), such as mean and median blood lead levels in the general United States population, indicate that Federal, State, and Tribal programs to reduce childhood lead poisoning from exposure to lead-based paint and dust have succeeded in lowering blood-lead levels from the early-1990's levels. New data released by CDC in January 2003 indicate that the national incidence of elevated lead blood levels among children may now be approximately 400,000 cases, based on combined 1999 and 2000 samples. Collaboration among partners continues in an effort to further reduce or eliminate this preventable condition.

On other fronts, exposure to asbestos, polychlorinated biphenyls (PCBs) and some pesticides in our buildings and in the environment poses risks to humans as well as wildlife.⁴ Pesticides and chemicals that may act as endocrine disruptors at ambient levels is an area of increased concern for human health and the environment. For other common chemicals, risks may not be known. The screening and testing of chemicals about to enter the market, combined with the review of the most common chemicals already in use through the Chemical Right-to-Know Program, fills critical gaps in our knowledge about the effects of chemicals on human health and the environment.

¹ 2000 Toxic Release Inventory (TRI) Public Data Release - Executive Summary (EPA 260 S 02 001).
<http://www.epa.gov/tri/tridata/tri00/index.htm>

² Centers for Disease Control, National Center for Health Statistics, National Health and Nutrition Examination Survey: 1999–2002. Available at <http://www.cdc.gov/nchs/nhanes.htm>

³ Centers for Disease Control, National Center for Health Statistics, National Health and Nutrition Examination Survey: 1999–2002. Available at <http://www.cdc.gov/nchs/nhanes.htm>

⁴ Centers for Disease Control, National Center for Health Statistics, National Health and Nutrition Examination Survey: 1999–2002. Available at <http://www.cdc.gov/nchs/nhanes.htm>

Under Federal environmental statutes, the Agency has responsibility for assuring human health and environmental protection in Indian country. Since 1984, EPA policy has been to work with tribes on a government-to-government basis that affirms the vital trust responsibility that EPA has with every Federally-recognized Tribal government. EPA endeavors to address Tribal environmental priorities, ensure compliance with environmental laws, provide field assistance, assure effective communication with tribes, allow flexibility in grant programs, and provide resources for Tribal operations.

Means and Strategy

The diversity and sensitivity of America's environments (communities, homes, workplaces and ecosystems) require EPA to adopt a multi-faceted approach to protecting the public from the potential threats posed by pesticides, toxic chemicals and other pollutants. The underlying principle of the activities in this goal is the application of pollution prevention practices, which can be cheaper and smarter than cleanup and remediation, as evidenced by the high cost of Superfund, Resource Conservation and Recovery Act (RCRA), and Polychlorinated Biphenyls (PCB) cleanups. Pollution Prevention (P2) involves changing the behavior of those that cause the pollution and fostering the wider use of preventive practices as a means to achieve effective, sustainable results.

Under this Goal, EPA ensures that pesticides and their application methods do not present unreasonable risks to human health, the environment, and ecosystems. In addition to the array of risk-management measures specified in the registration authorities under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) for individual pesticide ingredients, EPA has specific programs to foster worker and pesticide-user safety, ground-water protection, and the safe use of pesticides and other pest control methods. These programs work to ensure the comprehensive protection of the environment and wildlife, endangered species in particular, and to reduce the contribution of pesticides to ecological threats such as pollutant loading in select geographic areas. EPA is also addressing emerging threats such as endocrine disruptors by developing and implementing new screening technologies to assess a chemical's impact on hormonal activity.

Within the pesticide program, EPA pursues a variety of field activities at the regional, State, Tribal and local levels, including the promotion of pesticide environmental stewardship and Integrated Pest Management (IPM). States and tribes are vital partners in our work to implement FQPA. The voluntary partnerships and outreach programs that help farmers transition away from the riskier products are often catalyzed by State participation. These programs, combined with the availability of newer and safer pesticides, are having a real impact. In 2004 we expect at least 8.5 percent of acre-treatments will use reduced-risk pesticides. We are seeing a reduction in wildlife impacts from pesticides as well, and

in 2004 we project an additional five percent reduction in reported incidents of wildlife mortalities, from the 1995 level. That means fewer bird casualties and fewer fish kills. The accumulation of these improvements will mean safer food, improved biodiversity, and a cleaner environment.

The Agency remains committed to safeguarding our Nation's communities, homes, workplaces and ecosystems. Preventing pollution through regulatory, voluntary, and partnership actions -- educating and changing the behavior of the public -- is a sensible and effective approach to sustainable development while protecting our nation's health. Two groups with significant potential to effect environmental changes are industry and academia. In the past decade, the Agency has successfully pursued a number of pollution prevention programs with both of these groups, including the groundbreaking 33/50 Program, which in 1991 introduced voluntary collaboration into EPA's environmental protection efforts, and the Presidential Green Chemistry Challenge Award, which stimulates industry and academia toward the development of innovative new and improved industrial chemicals and processes. The Agency continues to expand its use of voluntary mechanisms to leverage pollution prevention, focusing on the health care service sector in fostering the American Hospital Association's Hospitals for a Healthy Environment partnership program, which have more than 2,000 participants in 2004. Likewise, improved understanding of the potential risks to health from airborne indoor toxic chemicals will strengthen our ability to reduce residents' exposure through voluntary changes in behavior and potential product reformulation.

Preventing pollution through partnerships is also central to EPA's Chemical Right-to-Know Program (ChemRTK), which has already started providing the public with information on the basic health and environmental effects of the 2,800 high production volume (HPV) chemicals in the United States (chemicals manufactured in or imported into the United States in quantities of at least one million pounds annually). Most residents come into daily contact with many of these chemicals, yet relatively little is known about their potential impacts. Getting basic hazard testing information on large volume chemicals is the focus of the "HPV Challenge Program," a voluntary program challenging industry to develop chemical hazard data critical to enabling EPA, State, tribes, and the public to screen chemicals already in commerce for any risks they may be posing.

EPA has two major strategies to meet its human health objective for indoor air quality: increasing public awareness and increasing partnerships with non-governmental and professional entities. EPA raises public awareness of actual and potential indoor air risks so that individuals can take steps to reduce exposure. Outreach activities, in the form of educational literature, media campaigns, hotlines, and clearinghouse operations, provide essential information about indoor air health risks not only to the public, but to the professional and research communities as well. Underpinning EPA's outreach efforts is a strong commitment to environmental justice,

community-based risk reduction, and customer service. Through partnerships with EPA disseminates multi-media materials encouraging individuals, schools, and industry to take action to reduce health risks in their indoor environments. In addition, EPA uses technology transfer to improve the ways in which all types of buildings, including schools, homes, and workplaces, are designed, operated, and maintained. To support these voluntary approaches, EPA incorporates the most current science available as the basis for recommending ways that people can reduce exposure to indoor contaminants.

EPA is also taking the initial steps to address the potential threat of endocrine disrupting chemicals on the health of humans and wildlife. Work focuses on developing and validating new chemical screens and tests to isolate those chemicals and characterize the threat.

Also central to the Agency's work under this goal in FY 2004 will be continued attention to reducing potential risk from persistent, bioaccumulative and highly toxic chemicals (PBTs) and from chemicals that have endocrine disruption effects. PBT chemicals are of particular concern not only because they are toxic but also because they may remain in the environment for a long period of time, are not readily destroyed, and may build up or accumulate to high concentrations in plant or animal tissue. In cases involving mercury and PCBs, they may accumulate in human tissue.

EPA programs under this Goal have many indirect effects that significantly augment the stream of benefits they provide. For example, each year the Toxic Substances Control Act (TSCA) New Chemicals program reviews and manages the potential risks from approximately 1,800 new chemicals and 40 products of biotechnology that enter the marketplace.⁵ Since its inception, approximately 17,000 new chemicals reviewed by the program have entered United States commerce. This new chemical review process not only protects the public from the possible immediate threats of harmful chemicals like PCBs from entering the marketplace, but it has also contributed to changing the behavior of the chemical industry, making industry more aware and responsible for the impact these chemicals have on human health and the environment.

The New Chemicals program also encourages industry to develop safer, or "green," chemicals as substitutes for more dangerous ones. In FY 2004 the Agency will continue to provide industry training in the use of the same tools that EPA uses to assess new chemicals, enabling companies to make smarter choices at earlier

stages in their design process, reducing government costs, and hastening the entry of safer new products into the marketplace. Through the Green Chemistry program, the use and generation of 38 million pounds and approximately three million gallons of hazardous chemicals have been eliminated, and 275 million gallons of water have been saved.⁷ A PART evaluation of the New Chemicals program showed that it had very strong purpose and management and collaborates with other Federal agencies. The assessment also found that while the program has to some extent shown results, it lacks adequate long-term measures. Recommendations from the assessment include improving the program's strategic planning, which includes an independent evaluation of the program. The Agency will also establish more outcome-oriented measures including at least one efficiency measure.

The Design for the Environment (DfE), Green Chemistry, and Green Engineering programs build on and expand new chemistry efforts. They target industry and academia to maximize pollution prevention. Our DfE Program forms partnerships with industry to find sensible solutions to prevent pollution. In one example, taking a sector approach, EPA has worked with the electronics industry to reduce the use of formaldehyde and other toxic chemicals in the manufacture of printed wiring boards.⁸ Our Green Chemistry Program also forms partnerships with industry and the scientific community to find economically viable technical solutions to prevent pollution. In addition, the Green Engineering Program works with the American Society of Engineering Education (ASEE) to incorporate Green Engineering approaches into engineering curricula.

Since this goal focuses on how the public lives in communities, it features the Agency's commitment to fulfilling its responsibility for assuring human health and promoting environmental protection in Indian country. EPA's policy is to work with tribes on a government-to-government basis that affirms the vital trust responsibility that EPA has with 572 Tribal governments and remain cognizant of the Nation's interest in conserving the cultural uses of natural resources.

Core elements of pollution prevention include minimizing toxic pollutants contained in hazardous waste streams and other pathways for the generation of toxic waste. This is accomplished through a variety of diverse regulatory and voluntary strategies, including fostering materials reuse and recycling, broad-based campaigns to re-engineer the consumption and use of raw materials, and promoting public resource conservation. These effective and sustainable programs reduce the need for storage, treatment or disposal of hazardous and municipal solid wastes, with the added benefit of reducing costs to industry and municipalities, reducing pollution and pollution control costs associated with production of virgin materials, conserving energy and energy costs, and reducing greenhouse gas emission.

In FY 2004, EPA's waste management program will increase consumer and individual awareness of environmental issues by implementing The Resource Conservation Challenge (RCC). Launched in 2002, this

⁵ U.S. EPA, Office of Pollution Prevention and Toxics, TSCA New Chemicals Program Annual Report and the TSCA New Chemicals Program Website

<http://www.epa.gov/oppt/newchems/accomplishment.s.htm>

⁸ U.S. EPA, Office of Pollution Prevention and Toxics, Design for Environment, www.epa.gov/dfe

new campaign asks businesses, manufacturers and consumers to adopt a resource conservation ethic; to operate more efficiently; to purchase more wisely; and to make and use products that are easy to recycle and are composed of recycled materials. The Challenge also encourages the reduction of hazardous wastes containing priority chemicals through the National Waste Minimization Partnership Program. These effective and sustainable programs reduce the need for storage, treatment or disposal of hazardous or municipal wastes, with the added benefit of reducing costs to industry and municipalities. The 2003 House Subcommittee Report encouraged and supported the RCC strategy to identify opportunities to further the goal of resource conservation and recovery while remaining true to the mission of ensuring safe and protective waste management practices.

In several cases, achieving the strategic objectives under this goal is a shared responsibility with other Federal, State and Tribal partners. For example, EPA's role in reducing the levels of children's lead exposure involves promotion of Federal-state-tribe partnerships to decrease the number of specific sources of lead to children, primarily from addressing lead-based paint hazards. These partnerships emphasize development of a professional infrastructure to identify, manage and abate lead-based paint hazards, as well as public education and empowerment strategies, which fit into companion Federal efforts with Department of Health and Human Services (HHS), Department of Defense (DOD), Department of Energy (DOE), Department of Justice (DOJ), Centers for Disease Control (CDC), and Department of Housing and Urban Development (HUD). These combined efforts help to monitor lead levels in the environment, with the intent of virtually eliminating lead poisoning in children.

In 2004, EPA will also launch a set of expanded, multi-media Children's Health protection activities. The Agency will partner with several organizations and States to provide education and outreach on environmental issues affecting sensitive populations and will implement an Environmental Management Systems (EMS) approach for elementary schools. Through these approaches, State and local capacity to address sensitive populations will be developed, the number of asthma-related reportable health incidents and emergency room visits will decrease, and schoolchildren will have reduced exposures to poor indoor air quality, asbestos, mercury, pesticides and other hazardous chemicals.

Research

Currently, there are significant gaps with regard to the understanding of actual human and ecological exposures to pesticides and toxic substances. To address those data gaps, EPA research will provide a strategic framework for developing an integrated suite of tools and models that will enhance EPA's procedures for assessing the risks to human health and ecological systems associated with commercial chemicals, microorganisms, and genetically modified organisms.

External Factors

The ability of the Agency to achieve its strategic goals and objectives depends on several factors over which the Agency has only partial control or influence. EPA relies heavily on partnerships with states, tribes, local governments, the public and regulated parties to protect the environment and human health. In addition, EPA assures the safe use of pesticides in coordination with the USDA and FDA, who have responsibility to monitor and control residues and other environmental exposures, as necessary. EPA also works with these agencies to coordinate with other countries and international organizations with which the United States shares environmental goals. This plan discusses the mechanisms and programs that the Agency employs to assure that our partners in environmental protection will have the capacity to conduct the activities needed to achieve the objectives. However, as noted, EPA often has limited control over these entities. In addition, much of the success of EPA programs depends on the voluntary cooperation of the private sector and the general public.

Other factors that could delay or prevent the Agency's achievement of some objectives include lawsuits that delay or stop EPA's and/or State partners' planned activities, new or amended legislation, and new commitments within the Administration. Economic growth and changes in producer and consumer behavior, such as shifts in energy prices or automobile use, could have an influence on the Agency's ability to achieve several of the objectives within the specified.

Large-scale accidental releases or rare catastrophic natural events could, in the short term, impact EPA's ability to achieve the objectives. In the longer term, new environmental technology, unanticipated complexity or magnitude of environmental problems, or newly identified environmental problems and priorities could affect the timeframe for achieving many of the goals and objectives. In particular, pesticide use is affected by unanticipated outbreaks of pest infestations and/or disease factors, which require EPA to review emergency uses to ensure no unreasonable risks to the environment will result. EPA has no control over requests for various registration actions which include among others, new products, amendments, and uses, so its projection of regulatory workload is subject to change.

The Agency's ability to achieve its objective of facilitating prevention, reduction and recycling of Persistent, Bioaccumulative, and Toxic chemicals (PBTs) could be impacted by the increased flexibility provided to redirect resources under the National Environmental Performance Partnership System (NEPPS). If States redirect resources away from this area, it would impact both annual performance and progress implementing the Agency's strategic plan. To mitigate this potential issue, EPA is working with the Environmental Council of States (ECOS) to develop core measures and coordinating with states to reduce PBTs in hazardous waste and develop tools that will focus state activities on shared EPA and state goals.

Achieving our objective for Indian country is based upon a partnership with Indian Tribal governments, many of which face severe poverty, employment, housing and education issues. Because Tribal Leader and environmental director support will be critical in achieving this objective, the Agency is working with tribes to ensure that they understand the importance of having good information on environmental conditions in Indian country and sound environmental capabilities. In addition, EPA

also works with other Federal Agencies, the Department of Interior (US Geological Survey, Bureau of Indian Affairs, and Bureau of Reclamation), the National Oceanic and Atmospheric Administration, the Indian Health Service and the Corps of Engineers to help build programs on Tribal lands. Changing priorities in these agencies could impact their ability to work with EPA in establishing and implementing strategies, regulations, guidance, programs and projects that affect Indian tribes.

Resource Summary
(Dollars in thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Preventing Pollution and Reducing Risk in Communities, Homes, Workplaces and Ecosystems	\$323,441.9	\$326,651.9	\$346,340.6	\$19,688.7
Reduce Public and Ecosystem Risk from Pesticides	\$56,169.1	\$55,409.8	\$57,313.1	\$1,903.3
Reduce Risks from Lead and Other Toxic Chemicals	\$37,745.8	\$36,355.9	\$38,722.5	\$2,366.6
Manage New Chemical Introduction and Screen Existing Chemicals for Risk	\$76,449.4	\$77,538.2	\$81,531.2	\$3,993.0
Ensure Healthier Indoor Air.	\$40,290.3	\$40,322.7	\$42,380.4	\$2,057.7
Facilitate Prevention, Reduction and Recycling of PBTs and Toxic Chemicals	\$48,461.0	\$46,115.9	\$49,958.2	\$3,842.3
Assess Conditions in Indian Country	\$64,326.3	\$70,909.4	\$76,435.2	\$5,525.8
Total Workyears	1,174.7	1,193.9	1,188.9	-5.0

Objective 1: Reduce Public and Ecosystem Risk from Pesticides

By 2005, public and ecosystem risk from pesticides will be reduced through migration to lower-risk pesticides and pesticide management practices, improving education of the public and at risk workers, and forming "pesticide environmental partnerships" with pesticide user groups.

Resource Summary (Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Reduce Public and Ecosystem Risk from Pesticides	\$56,169.1	\$55,409.8	\$57,313.1	\$1,903.3
Environmental Program & Management	\$42,040.7	\$41,358.0	\$43,226.3	\$1,868.3
Science & Technology	\$978.2	\$966.3	\$986.8	\$20.5
State and Tribal Assistance Grants	\$13,150.2	\$13,085.5	\$13,100.0	\$14.5
Total Workyears	237.3	239.1	233.7	-5.4

Key Program (Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Congressionally Mandated Projects	\$1,700.0	\$0.0	\$0.0	\$0.0
Endocrine Disruptor Screening Program	\$750.5	\$768.9	\$768.0	(\$0.9)
Facilities Infrastructure and Operations	\$3,350.0	\$3,423.3	\$3,521.9	\$98.6
Legal Services	\$308.2	\$328.6	\$343.0	\$14.4
Management Services and Stewardship	\$382.5	\$384.1	\$333.5	(\$50.6)
Partnerships to Reduce High Risk Pesticide Use	\$10,407.0	\$12,279.8	\$11,686.2	(\$593.6)
Pesticide Registration	\$10,609.7	\$11,016.6	\$10,938.8	(\$77.8)
Pesticide Reregistration	\$3,793.3	\$3,907.2	\$4,152.7	\$245.5
Pesticides Program Implementation Grant	\$13,085.5	\$13,085.5	\$13,100.0	\$14.5
Regional Management	\$0.0	\$21.9	\$17.9	(\$4.0)
Safe Pesticide Applications	\$11,157.2	\$10,193.9	\$12,451.1	\$2,257.2

Annual Performance Goals and Measures

Partnerships and Risk Reduction

In 2004 Reduce public health and ecosystem risk from pesticides.

In 2003 Reduce public and ecosystem risk from pesticides.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Successful transitions from high risk pesticides to effective alternative pest management practices			20-30	Transitions
Number of efforts identified with USDA, universities, states, and others, leveraging Farm Bill funds that promote the research and adoption of reduced risk pest management strategies.			40	Efforts
Number of incidents and mortalities to terrestrial and aquatic wildlife caused by the 15 pesticides responsible for the greatest mortality to such wildlife.		20	5%	reduction
Quantified adoption of pollution prevention measures in targeted commodities and farm management strategies.			tbd	grants

Baseline: The baseline for wildlife mortalities, transitions, and efforts are under development. The baseline for grants, which are targeted for adoption and/or development of IPM standards, irrigation water conservation and management, dust mitigation, waste management and other best management practices are under development using Farm Bill funds as leverage, is zero.

Verification and Validation of Performance Measures**FY 2004 External Performance Measures: Quantified adoption of pollution prevention measures in targeted commodities farm management strategies**

Performance Database: EPA's Regional Offices' and Headquarters' databases.

Data Source: The data source is the number of grants awarded in conjunction with the United States' Department of Agriculture's (USDA) Farm Bill efforts to support the development of Integrated Pest Management strategies, irrigation water conservation and management, dust mitigation, waste management, and other best management strategies. Information will be compiled through a consolidated count from EPA's Office of Pollution Prevention and Toxic Substances (OPPTS), the Office of Air and Radiation (OAR) and the Office of Water (OW). The Agency is starting to develop a template to use in grant management for these projects that will promote standardized reporting of environmental outcomes such as the use of reduced-risk pesticides and other agricultural management strategies.

Methods, Assumptions and Suitability: This is an output measure tracked directly through EPA Regional Offices' and HQ's record-keeping systems. No models or assumptions or statistical methods are employed. Data are aggregated nationally and suitable for cross year comparisons.

QA/QC Procedures: Regional and Headquarters' offices are responsible for ensuring the accuracy of the count of grants awarded.

Data Quality Review: Regional Offices will conduct their own QA/QC procedures prior to submitting their counts to EPA-HQ for consolidation into a national count.

Data Limitations: This is a measure of grants awarded only. As stated above, the Agency is developing a more sophisticated method of environmental outcome reporting for grants awarded to promote of agricultural best management strategies.

Error Estimate: N/A.

New/Improved Data or Systems: see above.

References: OPPTS HQ-Regional Memorandum of Agreement (MOA).

FY 2004 External Performance Measures: Successful transitions from high-risk pesticides to effective alternative pest management practices

Performance Database: EPA's Regional Offices' databases

Data Source: All information is received through reporting from EPA's Regional offices, consistent with Office of Pollution Prevention and Toxic Substances' (OPPTS) biennial Regional Office-HQ Memorandum of Agreement (MOA).

Methods, Assumptions and Suitability: This is an outcome measure tracked directly through EPA's Regional Offices' record-keeping systems. No models or assumptions or statistical methods are employed. Data are aggregated nationally and suitable for cross year comparisons.

QA/QC Procedures: Regional Offices are responsible for determining if a particular activity constitutes a "transition," using criteria that will be developed during FY2003.

Data Quality Review: Regional Offices will conduct their own QA/QC procedures prior to submitting their counts to EPA-HQ for consolidation into a national count. Discussion will be held throughout the year to ensure consistency in characterizing "transitions."

Data Limitations: This measure is designed to quantify various activities in agriculture that promote safer pest management strategies and is necessarily broad. For example, a transition could include safer pest management tools applied to an entire crop in a particular location, and/or the substitution of a safer chemical (such as a reduced risk pesticide or a biopesticide) for a more risky pesticide.

Error Estimate: N/A.

New/Improved Data or Systems: EPA will develop a definition of more explicit "transition" in FY2003.

References: OPPTS Headquarters-Regional M.O.A.

FY 2004 External Performance Measures: Number of efforts identified with USDA, universities, grower groups, and states that promote the research and adoption of reduced risk pest management strategies.

Performance Database: EPA's Regional Offices' databases

Data Source: All information is received through reporting from Regional offices, consistent with OPPTS' biennial Regional Office-HQ Memorandum of Agreement (MOA).

Methods, Assumptions and Suitability: This is an output measure tracked directly through EPA's Regional Offices' record-keeping systems. No models or assumptions or statistical methods are employed. Data are aggregated nationally and suitable for cross year comparisons.

QA/QC Procedures: Regional Offices are responsible for determining if a particular activity constitutes an "effort," using criteria, which will be developed during FY2003.

Data Quality Review: Regional Offices will conduct their own QA/QC procedures prior to submitting their counts of efforts to EPA-HQ for consolidation into a national count.

Data Limitations: Because this measure is designed to quantify outreach to various stakeholders across the country, including meetings, presentations, phone calls, etc, it can only approximate the total effort that EPA is expending to promote reduced risk pest management strategies. The definition of effort will necessarily be broad as there are many communication tools available to the Agency for outreach to stakeholders.

Error Estimate: N/A.

New/Improved Data or Systems: EPA will develop a more explicit definition of "effort" in FY 2003.

References: OPPTS HQ-Regional M.O.A.

FY 2004 External Performance Measures: Number of incidents and mortalities to terrestrial and aquatic wildlife caused by the 15 pesticides responsible for the greatest mortality to such wildlife.

Performance Database: The Ecological Incident Information System (EIIS) is a national database of information on poisoning incidents of non-target plants and animals caused by pesticide use. The Environmental Fate and Effects Division of the Office of Pesticide Programs maintain this database.

Data Source: Data are extracted from written reports of fish and wildlife incidents submitted to the Agency by pesticide registrants under the Federal Insecticide Fungicide and Rodenticide Act (FIFRA), Section 6(a)(2), as well as incident reports voluntarily submitted by state and Federal agencies involved in investigating such incidents.

Methods, Assumptions and Suitability: This measure helps to provide information on the effect of our regulatory actions on the well being of fish and wildlife. The assumption is that the number of incidents and mortalities to fish and wildlife caused by pesticides will decrease when use of those pesticides are curtailed or eliminated.

QA/QC Procedures: Before entering an incident, a database program is used to screen for records already in the database with similar locations and dates. Similar records are then individually reviewed to prevent duplicate reporting. After each record is entered into the EIIS database, an incident report is printed that contains all the data entered into the database. A staff member, other than the one who entered the data, then reviews the information in the report and compares it to the original source report to verify data quality. Scientists using the incident database are also encouraged to report any inaccuracies they find in the database for correction.

Data Quality Review: Internally and externally conducted data quality reviews related to data entry are ongoing. EPA follows a quality assurance plan for accurately extracting data from reports and entering it into the EIIS database. This quality assurance plan is described in Appendix D of the Quality Management Plan for the Office of Pesticide Programs. When wildlife data from private organizations such as the American Bird Conservancy are incorporated, the new data and EIIS data are reviewed for quality during data entry using the same standards.

Data Limitations: This measure is designed to monitor trends in the numbers of acute poisoning events reported to the Agency. Because the data are obtained, in part, through voluntary reporting, the numbers of reported incidents may not accurately reflect the numbers of actual incidents. Therefore, it is important to consider the possible factors influencing changes in incident reporting rates over time when evaluating this measure.

Error Estimate: Moving average counts of number of incidents per year may be interpreted as a relative index of the frequency of adverse effects that pesticides are causing to fish and wildlife from acute toxicity effects. The indicator numbers are subject to under-reporting, but trends in the numbers over time may indicate if the overall level of adverse acute effects is improving or getting worse.

New/Improved Data or Systems: The Office of Pesticide Programs is currently conducting a project with the American Bird Conservancy, reviewing the data in its Avian Incident Monitoring System on bird kill incidents caused by pesticides. These data will be incorporated into the EIIS. The project should improve the quantity and quality of data in the EIIS database on avian incidents.

References: The Ecological Incident Information System (EIIS) is an internal Office of Pesticide Programs database. Data available upon request.

Statutory Authorities

Federal Insecticide, Fungicide and Rodenticide Act (FIFRA)

Federal Food, Drug and Cosmetic Act (FFDCA)

Food Quality Protection Act (FQPA) of 1996

Clean Water Act

Objective 2: Reduce Risks from Lead and Other Toxic Chemicals

By 2007, significantly reduce the incidence of childhood lead poisoning and reduce risks associated with polychlorinated biphenyls (PCBs), mercury, dioxin, and other toxic chemicals of national concern.

Resource Summary (Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Reduce Risks from Lead and Other Toxic Chemicals	\$37,745.8	\$36,355.9	\$38,722.5	\$2,366.6
Environmental Program & Management	\$21,891.9	\$22,673.9	\$25,022.5	\$2,348.6
State and Tribal Assistance Grants	\$15,853.9	\$13,682.0	\$13,700.0	\$18.0
Total Workyears	135.7	144.7	149.8	5.1

Key Program (Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Congressionally Mandated Projects	\$380.0	\$0.0	\$0.0	\$0.0
Facilities Infrastructure and Operations	\$1,940.1	\$2,076.6	\$2,152.8	\$76.2
Grants to States for Lead Risk Reduction	\$13,682.0	\$13,682.0	\$13,700.0	\$18.0
Lead Risk Reduction Program	\$13,092.6	\$13,166.3	\$14,832.9	\$1,666.6
Legal Services	\$220.4	\$238.9	\$248.3	\$9.4
Management Services and Stewardship	\$182.9	\$197.6	\$282.4	\$84.8
National Program chemicals: PCBs, Asbestos, Fibers, and Dioxin	\$6,775.5	\$6,994.5	\$7,506.1	\$511.6

Annual Performance Goals and Measures

Exposure to Industrial / Commercial Chemicals

In 2004 Reduce exposure to and health effects from priority industrial / commercial chemicals

In 2002 Preliminary data lends to our confidence that this goal will be met. We will provide the data and explanation as soon as they are available and it will be in time for the FY 2002 APR

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Safe Disposal of Transformers			8,000	Transformers
Safe Disposal of Capacitors			6,000	Capacitors

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Number of individuals certified nationally to perform lead-based paint abatement.	4574		18,000	cert. ind. cum
number of children aged 1-5 years with elevated blood lead levels (>10 ug / dl)			tbd	children

Baseline: The baseline for number of certified individuals for lead paint abatement is zero in 2000. The baseline for PCB transformers is 2.2 million units and for capacitors is 1.85 million units as of 1988 as noted in the 1989 PCB Notification and Manifesting Rule.

Verification and Validation of Performance Measures

FY 2004 Performance Measure:

- **Safe disposal of PCB transformers**
- **Safe disposal of PCB large capacitors**

Performance Database: PCB Annual Report Database.

Data Source: Annual Reports from commercial storers and disposers of PCB Waste.

Methods, Assumptions, and Suitability: Data is to provide a baseline for the amount of PCB waste disposed of annually.

QA/QC Procedures: The Agency reviews, transcribes, and assembles data into the Annual Report Database.

Data Quality Reviews: The Agency contacts data reporters, when needed, for clarification of data submitted.

Data Limitations: Data limitations include missing submissions from commercial storers and disposers, and inaccurate submissions. PCB-Contaminated Transformers 50 to 499 ppm PCBs and those that are 500 ppm PCBs or greater are not distinguished in the data. Similarly, large and small capacitors of PCB waste may not be differentiated data are collected for the previous calendar year on July 1 of the next year creating a lag of approximately one year. Despite these limitations, the data does provide the only estimate of the amount of PCB waste disposed annually.

Error Estimate: N/A.

New/Improved Data or Systems: None

References: None

FY 2004 External Performance Measure: Number of certified individuals nationally

Performance Database: EPA's regional office records.

Data Source: Currently, all information is received through informal reporting from EPA's regional offices, and originates from information submitted via certification applications. In the future, we will track certifications centrally.

Methods, Assumptions, and Suitability: This is an output measure tracked directly through the Office of Pollution Prevention and Toxics' record-keeping systems. No models or assumptions or statistical methods are employed. Data are aggregated nationally and suitable for cross year comparisons.

QA/QC Procedures: Applicants are given photo identifications to prevent cheating at certification testing centers. EPA Headquarters reviews applications for completeness, including checking for the required information and materials. EPA's regional offices review applications for quality, including a more substantive review of the application. Third-party test centers have extensive QA/QC controls under their contract with EPA.

Data Quality Reviews: Data quality reviews of records maintained at the test centers are conducted by EPA Regional Offices during routine compliance monitoring of the centers using Office of Enforcement and Compliance Assurance procedures⁹. The

⁹ U.S. EPA Office of Enforcement and Compliance, <http://www.epa.gov/compliance/resources/policies/index.html>

reviews have found occasional discrepancies but no regional or national trends have surfaced requiring substantive modifications to any record keeping or QA/QC procedures.

Data Limitations: We have certification data from nine out of ten EPA regional offices. We expect that the remaining regional office would add no more than 300 certified entities to the baseline count. If an individual or firm was certified in more than one EPA region, they have been double-counted. We expect that these difficulties will be resolved once we have in place a centralized database.

Error Estimate: N/A.

New/Improved Data or Systems: We hope to have a centralized, contractor-run tracking system in place by 2003.

References: None.

FY 2004 External Performance Measure: Number of children aged 1-5 years with elevated blood lead levels (>10 ug/dL)

Performance Database: Centers for Disease Control and Prevention's (CDC) National Health and Nutrition Examination Survey (NHANES)

Data Source: The National Health and Nutrition Examination Survey (Centers for Disease Control, National Center for Health Statistics, National Health and Nutrition Examination Survey: 1999-2002. Available at <http://www.cdc.gov/nchs/nhanes.htm>) is a coordinated program of studies designed to assess the health and nutritional status of adults and children in the United States. The program began in the early 1960's and continues. The survey examines a nationally representative sample of approximately 5000 people each year located across the United States

Methods, Assumptions, and Suitability: Detailed interview questions cover areas related to demographic, socio-economic, dietary, and health-related questions. The survey also includes an extensive medical and dental examination of participants, physiological measurements, and laboratory tests. Specific laboratory measurements of environmental interest include: heavy metals (lead, cadmium, and mercury), VOC exposures, phthalates, organophosphates (OPs), pesticides and their metabolites, non-persistent pesticides, dioxins/furans and polyaromatic hydrocarbons (PAHs). NHANES is unique in that it links laboratory-derived measurements of exposure (urine, blood etc.) to questionnaire responses and results of physical exams.

CDC publishes a "National Report on Human Exposure to Environmental Chemicals," (Centers for Disease Control, National Center for Health Statistics, National Health and Nutrition Examination Survey: 1999-2002. Available at <http://www.cdc.gov/nchs/nhanes.htm>) which reflects findings from NHANES. It provides ongoing surveillance of the United States population's exposure to environmental chemicals. The 1999 report provides measurements of exposure to 27 chemicals based on blood and urine samples from people participating in NHANES 1999. Current plans for future reports include expanding the number of chemicals to 100 (in order to include carcinogenic volatile organic compounds, carcinogenic PAHs, dioxins and furans, PCBs, trihalomethanes, haloacetic acids, and carbamate and organochlorine pesticides). Future reports will provide details among different populations stratifying results by gender, race/ethnicity, age, urban/rural residence, education level, income, and other characteristics. CDC will track these indicators over time. Data will assist regulators in analyzing trends over time, the effectiveness of public health efforts, and exposure variations among sub-populations.

QA/QC Procedures: Quality assurance plans are available from both CDC and the contractor, WESTAT, as outlined on the web site <<http://www.cdc.gov/nchs/nhanes.htm>> under the NHANES section.

Data Quality Reviews: CDC follows standardized survey instrument procedures to collect data to promote data quality, and data are subjected to rigorous QA/QC review. CDC/NCHS has an elaborate data quality checking procedure outlined on the web site <<http://www.cdc.gov/nchs/nhanes.htm>> under the NHANES section.

Data Limitations: The NHANES survey uses two steps, a questionnaire and a physical exam. For this reason, there are sometimes different numbers of subjects in the interview and examinations and special weighting techniques are needed. Additionally, the number of records in each data file varies depending on gender and age profiles for the specific components. Demographic information is collected but not available at the highest level of detail in order to protect privacy. Body burden data are evidence of human exposure to toxic substances; however, linkages between evidence of exposure and source of exposure have yet to be made for many substances. In the case of lead, the correlation is strongly documented.

Error Estimate: Because NHANES III is based on a complex multi-stage sample design, appropriate sampling weights should be used in analyses to produce national estimates. Several statistical methodologies can be used to account for unequal probability of the selection of sample persons. The methodologies and appropriate weights are provided at www.cdc.gov/nchs/about/major/nhanes/nhanes3/cdrom/nchs/MANUALS/NH3GUIDE to help generate appropriate error estimates.

New/Improved Data or Systems: NHANES is moving to an annual schedule. The sample design allows for limited estimates to be produced on an annual basis and more detailed estimates to be produced on 3-year samples.

References: CDC publishes a "National Report on Human Exposure to Environmental Chemicals," which reflects findings from NHANES. (<http://www.cdc.gov/nchs/nhanes.htm>)

Statutory Authorities

Toxic Substances Control Act (TSCA) section 4, 5, 6, 8, 12(b) and 13 (15 U.S.C. 2603_5,2607,2611 and 2612

Objective 3: Manage New Chemical Introduction and Screen Existing Chemicals for Risk

By 2007, prevent or restrict introduction into commerce of chemicals that pose risks to workers, consumers, or the environment and continue screening and evaluating chemicals already in commerce for potential risk.

Resource Summary (Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Manage New Chemical Introduction and Screen Existing Chemicals for Risk	\$76,449.4	\$77,538.2	\$81,531.2	\$3,993.0
Environmental Program & Management	\$54,789.3	\$52,388.6	\$55,902.8	\$3,514.2
Science & Technology	\$21,660.1	\$25,149.6	\$25,628.4	\$478.8
Total Workyears	398.7	391.2	393.5	2.3

Key Program (Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Community Assistance	\$474.4	\$507.1	\$0.0	(\$507.1)
Congressionally Mandated Projects	\$487.5	\$0.0	\$0.0	\$0.0
Endocrine Disruptor Screening Program	\$2,952.8	\$2,934.2	\$2,907.3	(\$26.9)
Environmental Monitoring and Assessment Program, EMAP	\$66.0	\$0.0	\$0.0	\$0.0
Existing Chemical Data, Screening, Testing and Management	\$28,286.4	\$28,331.9	\$29,667.0	\$1,335.1
Facilities Infrastructure and Operations	\$5,983.8	\$5,600.5	\$6,606.5	\$1,006.0
Homeland Security-Critical Infrastructure Protection	\$400.0	\$0.0	\$1,109.1	\$1,109.1
Legal Services	\$912.3	\$979.6	\$1,021.9	\$42.3
Management Services and Stewardship	\$824.5	\$725.8	\$852.8	\$127.0
New Chemical Review	\$12,477.2	\$13,123.8	\$13,440.6	\$316.8
Research to Support Safe Communities	\$21,593.6	\$25,149.6	\$25,628.4	\$478.8
Science Coordination and Policy	\$177.1	\$185.7	\$297.6	\$111.9

Annual Performance Goals and Measures

Risks from Industrial / Commercial Chemicals

- In 2004 Identify, restrict, and reduce risks associated with industrial/commercial chemicals
- In 2004 Identify, restrict, and reduce risks associated with industrial/commercial chemicals.
- In 2003 Of the approx. 1,800 applic. for new chem. and microorganisms submitted by industry, ensure those marketed are safe for humans and the envir. Increase proportion of commer. chem. that have undergone PMN review to signify they are properly managed and may be potential green altern. to exist. chem.
- In 2002 EPA reviewed all 1,943 Pre-manufacturing Notices received during FY 2002. At the end of 2002, 21.5 percent of all chemicals in commerce had been assessed for risks. A large fraction of these chemicals also may be "green" alternatives to existing chemicals in commerce.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Number of TSCA Pre-Manufacture Notice Reviews	1943	1800	1700	Notices
Make screening level health and environmental effects data publicly available for sponsored HPV chemicals	843		900	cum. chemicals
Number of Self-Audited New Chemical Product Alternatives			250	Alternatives
Reduction in the current year production-adjusted Risk Screening Environmental Indicators risk-based score of releases and transfers of toxic chemicals.			2%	Index
Reports of validation studies for four Tier 1 screening assays			4	scrn assays-cum
Number of chemicals for which sets of 15 AEGL values are made Final.			15	add'l chemicals

Baseline: The baseline for TSCA PMNs in FY2004 is zero. (EPA receives about 1,700 PMNs per year for chemicals about to enter commerce. From 1979-2002, EPA reviewed about 40,000 PMNs. Of the 78,000 chemicals potentially in commerce, 16,618 have gone through the risk-screening process.) The baseline for HPV measure is zero chemicals in 1998. The baseline for the RSEI measure is the index calculated for 2003. The baseline for the Tier 1 screening measure is zero in 1996 - no valid methods for endocrine disruptor screening and testing existed when FQPA was enacted in FY1996. The baseline for self-audited new chemical products is under development.

Baseline: The baseline for the AEGL measure under the base program is 29 cumulative chemicals through 2004.

Verification and Validation of Performance Measures

FY 2004 Performance Measures: Reports of validation studies for 13 Tier 1 endocrine disruptor screening assays

Performance Database: Program output; internal tracking system.

Data Source: Data collected by program office on number of screening assays validated.

Methods, Assumptions and Suitability: All screening assays are peer reviewed by the Scientific Advisory Panel (SAP) or the Agency Science Advisory Board (SAB). Study reports will be presented to the Endocrine Disruptor Methods Validation Subcommittee for review and comment.

QA/QC Procedures: All studies are being performed in accordance with EPA approved quality assurance project plans. All validation studies will be conducted using Good Laboratory Practices.

Data Quality Review: The SAP/SAB will be charged with identifying any data limitations during the peer review process.

Data Limitations: None identified

Error Estimate: N/A.

New/Improved Data or Systems: N/A.

References: Endocrine Disruptor Screening and Testing Advisory Committee (EDSTAC) Report, FY 2000 Report To Congress on the Endocrine Disruptor Screening Program.

Verification and Validation of Performance Measures

FY 2004 Performance Measure: Number of self-audited new chemical product alternatives under Sustainable Futures.

Performance Database: For this performance measure, EPA tracks the number of PMNs and supporting risk screening information submitted by industry to the Sustainable Futures voluntary program. EPA has developed computerized methodologies for evaluating hazard, exposure and risk based on an analysis of chemical structure. This approach, generally referred to as structure activity relationships, allows risk screening of chemicals early-on in R&D, when safer alternatives may be available and the cost of substitution is lowest. The P2 framework uses these same risk screening methodologies, called the P2 Framework, to evaluate PreManufacture Notices (PMNs) submitted under the Toxic Substances Control Act (TSCA). Under Sustainable Futures, EPA is making the P2 Framework available to industry, together with training and technical assistance. In addition, under Sustainable Futures, participating companies can receive regulatory flexibility for qualifying low hazard/low risk PMNs. This flexibility reduces the regulatory review period for new chemicals by 50 percent. For this performance measure, we track the number of PMNs and supporting risk screening information submitted by industry to the Sustainable Futures voluntary program.

Data Source: Industry conducts independently chemical risk screening and submits the data and results of risk screening analyses to EPA together with the PMN submission.

Methods, Assumptions, and Suitability: Industry submits the results of risk screenings with their PMNs, allowing EPA to track the level of participation in the Sustainable Futures program and the scope and applicability of the industry submissions. EPA will provide additional training and technical assistance to small businesses. EPA anticipates a relatively small number of companies participating in Sustainable Futures initially, with participation growing steadily over time. Industry response to both the concept of risk screening and the incentives offered, i.e., regulatory flexibility, has been very positive.

QA/QC Procedures: EPA will conduct a fully independent risk assessment of each PMN submitted under Sustainable Futures to ensure products commercialized do not present unreasonable risk.

Data Quality Reviews: EPA's own internal expert review will be employed to evaluate industry submissions under Sustainable Futures.

Data Limitations: EPA's experience indicates that estimates rendered by EPA's risk screening methodologies, included in the P2 Framework, are typically within the same order of magnitude as measured data. EPA's own internal expert review will be employed to evaluate industry submissions under Sustainable Futures. Because Sustainable Futures is a voluntary program, some chemical manufacturers may not submit their PMNs to the Sustainable Futures program.

Error Estimate: N/A.

New/Improved Data or Systems: EPA will evaluate the nature, quality and applicability of industry submissions under sustainable Futures. The Agency will continue to improve the scope and predictive capabilities of the P2 Framework risk screening methodologies. Data received through the High Production Volume Chemical Challenge program will be valuable in improving the P2 Framework risk screening capabilities by providing additional human and ecological health hazard data and data contributing to modeling of chemical environmental fate and transport.

References: None.

FY 2004 Performance Measure: TSCA Pre-manufacture Notice Reviews

Performance Database: New Chemicals Management Information Tracking System (MITS), which tracks information from beginning of Premanufacture Notice (PMN) program (1979) to present. Information includes number of PMNs submitted and final disposition (whether regulated or not) and number of low volume and test market exemptions.

Data Source: As industry develops new chemicals, it submits data related to the new chemicals for review to the Agency, including information on chemicals to be manufactured and imported, chemical identity, manufacturing process, use, worker exposure, environmental releases and disposal.

Methods, Assumptions, and Suitability: This is an output measure tracked directly through OPPT record-keeping systems. No models or assumptions or statistical methods are employed. Data are aggregated nationally and suitable for cross year comparisons.

QA/QC Procedures: Local Area Network (LAN) server contains confidential business information (CBI) support documents on each of the chemicals; data undergo quality assurance/quality control by EPA before being uploaded to the LAN. EPA always checks for consistency among similar chemicals in databases.

Data Quality Review: EPA reviews industry data; EPA staff scientists and contractors perform risk screenings and assessments, which could lead to regulation.

Data Limitations: None known.

Error Estimate: N/A.

New/Improved Data or Systems: None planned.

References: None.

Verification and Validation of Performance Measures

FY 2004 Performance Measure: Reduction in the FY 2004 production-adjusted Risk- Screening Environmental Indicators risk-based score of releases and transfers of toxic chemicals reported to TRI from the level calculated for FY 2003 (reported in FY 2006 due to TRI data lag).

Performance Database: The RSEI Model¹⁰ uses annual reporting from individual industrial facilities along with a variety of other information to evaluate chemical emissions and other waste management activities. RSEI incorporates detailed data from EPA's Toxics Release Inventory (TRI) and Integrated Risk Information System (IRIS), the United States Census, and many other sources. Due to a TRI data lag, performance data will be unavailable for this measure when the FY 2004 Annual Performance Report is prepared. The data will be available for the FY 2006 report.

Data Source: The wide variety of data used in the RSEI model were collected by Federal Agencies (United States Census Bureau, EPA, USGS, Commerce Dept. - National Oceanographic and Atmospheric Administration (NOAA), Dept. of Interior – United States Fish and Wildlife Service), State Agencies (air emissions and stack data, fishing license data), and research organizations (such as the Electric Power Research Institute (EPRI)) for a variety of national/state programmatic and regulatory purposes, and for industry-specific measurements.

Methods, Assumptions, and Suitability: The RSEI Model generates unique numerical values known as "Indicator Elements" using the factors pertaining to surrogate dose, toxicity and exposed population. Indicator Elements are unit less (like an index number, they can be compared to one-another but do not reflect actual risk), but proportional to the modeled relative risk of each release (incrementally higher numbers reflect greater estimated risk). Indicator Elements are risk-related measures generated for every possible combination of reporting facility, chemical, release medium, and exposure pathway (inhalation or ingestion). Each Indicator Element represents a unique release-exposure event and together these form the building blocks to describe exposure scenarios of interest. These Indicator Elements are summed in various ways to produce "Indicator Values," which represent the risk-related results for releases users are interested in assessing. RSEI results are for comparative purposes and only meaningful when compared to other scores produced by RSEI. The measure is appropriate for year-to-year comparisons of performance. Depending on how the user wishes to aggregate, RSEI can address trends nationally, regionally, by state or smaller geographic areas.

QA/QC Procedures: The Agency annually updates the data sources used within the RSEI model to take advantage of the most recent and reliable data. For example, TRI facilities self-report release data and occasionally make errors. TRI has quality control (QC) functions and an error-correction mechanism for reporting such mistakes. Because of the unique screening-level abilities of the RSEI model, it is possible to identify other likely reporting errors and these are forwarded to the TRI Program for resolution. In developing the RSEI model, the Agency performed numerous QC checks on various types of data. For instance,

¹⁰ U.S. EPA Office of Pollution Prevention and Toxics, *Risk Screening and Environmental Indicators Model*. Available at <http://www.epa.gov/opptintr/rsei/>

locational data for on-site and off-site facilities has been checked and corrected, and this information is being supplied to the Office of Environmental Information (OEI) and EPA's Envirofacts database.

Data Quality Reviews: RSEI depends upon a broad array of data resources, each of which has gone through a quality review process tailored to the specific data. It includes data from TRI, Integrated Risk Information System (IRIS), Health Effects Assessment Summary Tables (HEAST), United States Census, etc. All were collected for regulatory or programmatic purposes and are of sufficient quality to be used by EPA, other Federal agencies, and state regulatory agencies. Over the course of its development, RSEI has been the subject of three reviews by EPA's Science Advisory Board.¹¹

Data Limitations: RSEI relies on data from a variety of EPA and other sources. TRI data may have errors that are not corrected in the standard TRI QC process. In the past, RSEI has identified some of these errors and corrections have been made by reporting facilities. Drinking water intake locations are not available for all intakes nationwide. Where intake locations are known only at the county-level, RSEI distributes the drinking water population between all stream reaches in that county. This could increase or decrease the RSEI risk-related results depending on the pattern of TRI releases on the stream reaches in that county. If the actual uptake location were on a highly polluted stream reach, this approach would underestimate risk by distributing the drinking water population to less-polluted reaches. In coastal areas, some releases may go directly to the ocean, rather than nearby streams. The Agency is in the process of systematically correcting potential errors regarding these releases. These examples are illustrative of the data quality checks and methodological improvements that are part of the RSEI development effort. Data sources are updated annually and all RSEI values are recalculated on an annual basis.

Error Estimate: In developing the RSEI methodology, both sensitivity analyses and groundtruthing studies have been used to address model accuracy (documentation is provided on the RSEI Home Page - www.epa.gov/oppt/env_ind/). For example, groundtruthing of the air modeling performed by RSEI compared to site-specific regulatory modeling done by the state of New York showed virtually identical results in both rank order and magnitude. However, the complexity of modeling performed in RSEI, coupled with un-quantified data limitations, limits a precise estimation of errors that may either over- or under-estimate risk-related results.

New/Improved Data or Systems: RSEI developers regularly track improvements in Agency databases (e.g., SDWIS and Reach File databases) and incorporate newer data into the RSEI databases. Such improvements can also lead to methodological modifications in the model. Corrections in TRI reporting data for all previous years are captured by the annual updates of the RSEI model.

References: The methodologies used in RSEI were documented for the 1997 review by the EPA Science Advisory Board. The Agency has also provided this and other technical documentation on the RSEI Home Page, and is revising the existing methodology documents concurrent with the second beta release of RSEI Version 2.0.

¹¹ U.S. EPA Office of Pollution Prevention and Toxics, *Risk Screening Environmental Indicators Model, Peer Reviews*. Available at <http://www.epa.gov/opptintr/rsei/faqs.html>

Bibliography:

RSEI Methodology Document (describes data and methods used in RSEI Modeling)

RSEI User's Manual (PDF, 1.5 MB) explains all of the functions of the model, the data used, and contains tutorials to walk the new user through common RSEI tasks. A more general overview of the model can be found in the RSEI Fact Sheet (PDF, 23 KB).

Technical Appendices:

Technical Appendix A (PDF, 85 KB) - Available Toxicity Data for TRI Chemicals

Technical Appendix B (PDF, 291 KB) - Physicochemical Properties for TRI Chemicals and Chemical Categories

Technical Appendix C (PDF, 125 KB) - Derivation of Model Exposure Parameters

Technical Appendix D (PDF, 183 KB) - Locational Data for TRI Reporting Facilities and Offsite Facilities

Technical Appendix E (PDF, 98 KB) - Derivation of Stack Parameter Data

Technical Appendix F (PDF, 109 KB) - Additional Information on Flag Fields

Technical Appendix G (PDF, 46 KB) - Summary of Differences Between RSEI Data TRI Public Release Data

Performance Measure: Make screening level health and environmental effects data publicly available for HPV chemicals.

Performance Database: EPA is developing an electronic chemical right-to-know database system, called the United States High Production Volume (US HPV) database, which will allow organized storage and retrieval of all available information on High Production Volume chemicals in commerce in the United States. The US HPV database will be designed to store in a systematic fashion, physical chemistry, fate, exposure, and toxicity data on listed chemicals for Agency and public use. The United States HPV database will be operational in late 2003.

Data Source: Industry submits test plans and robust summaries of risk screening data in response to the voluntary HPV Challenge program or EPA promulgated test rules.

Methods, Assumptions, and Suitability: This is an output measure tracked directly through OPPT record-keeping systems. No models or assumptions or statistical methods are employed. Data are aggregated nationally and suitable for cross year comparisons.

QA/QC Procedures: Data undergo quality assurance/quality control by EPA before being uploaded to the database. EPA reviews industry submissions of robust summaries of hazard data on individual chemicals and chemical categories, and test plans based on those summaries. EPA determines whether industry data addressing the chemical parameters adequately support the summaries and test plans. Data review does not include new information received as a result of new testing.

Data Quality Review: Review of industry data.

Data Limitations: Data are primarily hazard data, not exposure data. Data are suitable to support screening level assessments only.

Error Estimate: N/A.

New/Improved Data or Systems: Data will be integrated with other Toxic Substances Control Act (TSCA) databases into an Oracle environment.

References: United States EPA Office of Pollution Prevention and Toxics, High Production Challenge Program, US HPV database to be available in 2003 at <http://www.epa.gov/chemrtk/hpvchmlt.htm>

Statutory Authorities

Toxic Substances Control Act (TSCA) section 4, 5, 6, 8, 12(b) and 13 (15 U.S.C. 2603-5, 2607, 2611 and 2612)

Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) sections 3, 4, 5, 6, 11, 18, 24, and 25 (7 U.S.C. 136a, 136a-1, 136c, 136d, 136i, 136p, 136v, and 136w)

Federal Food, Drug, and Cosmetic Act (FDCA)

Research

Toxic Substances Control Act (TSCA)

Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)

Federal Food, Drug, and Cosmetic Act (FDCA)

Objective 4: Ensure Healthier Indoor Air.

By 2005, 16 million more Americans than in 1994 will live or work in homes, schools, or office buildings with healthier indoor air.

Resource Summary (Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Ensure Healthier Indoor Air.	\$40,290.3	\$40,322.7	\$42,380.4	\$2,057.7
Environmental Program & Management	\$29,514.7	\$30,455.1	\$32,995.5	\$2,540.4
Science & Technology	\$2,187.8	\$1,727.7	\$1,234.9	(\$492.8)
State and Tribal Assistance Grants	\$8,587.8	\$8,139.9	\$8,150.0	\$10.1
Total Workyears	123.6	132.2	126.1	-6.1

Key Program (Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Air, State, Local and Tribal Assistance Grants: Other Air Grants	\$8,139.9	\$8,139.9	\$8,150.0	\$10.1
Children's Indoor Environments	\$13,287.9	\$13,918.4	\$16,714.5	\$2,796.1
Facilities Infrastructure and Operations	\$1,799.7	\$1,846.2	\$1,866.2	\$20.0
Indoor Environments	\$9,366.2	\$9,307.6	\$8,859.3	(\$448.3)
Legal Services	\$92.8	\$103.5	\$107.2	\$3.7
Management Services and Stewardship	\$526.6	\$513.2	\$495.2	(\$18.0)
Radon	\$6,453.0	\$6,493.9	\$6,188.0	(\$305.9)
Regional Management	\$4.0	\$0.0	\$0.0	\$0.0

Annual Performance Goals and Measures

Healthier Residential Indoor Air

In 2004 834,400 additional people will be living in healthier residential indoor environments.

In 2003 834,400 additional people will be living in healthier residential indoor environments.

In 2002 On track to ensure that 834,400 additional people will be living in healthier residential indoor environments.

Performance Measures:	FY 2002 Actuals Data Lag	FY 2003 Pres. Bud. 834,400	FY 2004 Request 834,400	People
People Living in Healthier Indoor Air				

Baseline: 1. By 2004, increase the number of people living in homes built with radon resistant features to 3,950,000 from 600,000 in 1994. (cumulative) 2. By 2004, decrease the number of children exposed to ETS from 19,500,000 in 1994 to 16,556,000. (cumulative) 3. By 2004, increase the number of people living in radon-mitigated homes to 1,689,700 from 780,000 from 1994. (cumulative) 4. By 2004, increase by 180,600 the number of people with asthma and their caregivers who are educated about indoor air asthma triggers.

Healthier Indoor Air in Schools

In 2004 1,575,000 students, faculty and staff will experience improved indoor air quality in their schools.

In 2003 1,050,000 students, faculty and staff will experience improved indoor air quality in their schools.

In 2002 On track to ensure that 1,228,500 students, faculty and staff will experience improved indoor air quality in their schools.

Performance Measures:	FY 2002 Actuals Data Lag	FY 2003 Pres. Bud. 1,050,000	FY 2004 Request 1,575,000	Students/Staff
Students/Staff Experiencing Improved IAQ in Schools				

Baseline: The nation has approximately 110,000 schools with an average of 525 students, faculty and staff occupying them for a total baseline population of 58,000,000. The IAQ "Tools for Schools" Guidance implementation began in 1997. For FY 2004, the program projects an additional 3,000 schools will implement the guidance and seeks to obtain implementation commitments from 10 of the 50 largest school districts in the United States with an average of 140,000 per district. (Additional, not cumulative since there is not an established baseline for good IAQ practices in schools.)

Verification and Validation of Performance Measures

FY 2004 Overarching Performance Measure: People Living in Healthier Indoor Air

FY 2004 Supporting Performance Measure: People Living in Radon Resistant Homes

Performance Database: Survey

Data Source: The survey is an annual sample of home builders in the United States most of whom are members of the National Association of Home Builders (NAHB). NAHB members construct 80% of the homes built in the United States each year. Using a survey methodology reviewed by EPA, NAHB Research Center estimates the percentage of these homes that are built radon resistant. The percentage built radon resistant from the sample is then used to estimate what percent of all homes built nationwide are radon resistant. To calculate the number of people living in radon resistant homes, EPA assumes an average of 2.67 people per household. NAHB Research Center has been conducting this annual builder practices survey for nearly a decade, and has developed substantial expertise in the survey's design, implementation, and analysis. The statistical estimates are typically reported with a 95 percent confidence interval.

Methods, Assumptions, and Suitability: NAHB Research Center conducts an annual survey of home builders in the United States to assess a wide range of builder practices. NAHB Research Center voluntarily conducts this survey to maintain an awareness of industry trends in order to improve American housing and to be responsive to the needs of the home building industry. The annual survey gathers information such as types of houses built, lot sizes, foundation designs, types of lumber used, types of doors and windows used, etc. The NAHB Research Center Builder Survey also gathers information on the use of radon-resistant design features in new houses, and these questions comprise about two percent of the survey questionnaire.

In January of each year, the survey of building practices for the preceding calendar year is typically mailed out to home builders. For the most-recently completed survey, for building practices during calendar year 2000, NAHB Research Center reported mailing the survey to about 39,000 active United States home building companies, and received about 2,200 responses which translates to a response rate of about 5.6 percent. This is the response rate for the entire survey. The survey responses are analyzed with respect to State market areas and Census Divisions in the United States, and are analyzed to assess the percentage and number of homes built each year that incorporate radon-reducing features. The data are also used to assess the percentage and number of homes built with radon-reducing features in high radon potential areas in the United States (high risk areas). Other analyses include radon-reducing features as a function of housing type, foundation type, and different techniques for radon-resistant new home construction. The data are suitable for year-to-year comparisons.

QA/QC Procedures: Because data are obtained from an external organization, QA/QC procedures are not entirely known. According to NAHB Research Center, QA/QC procedures have been established, which includes QA/QC by the vendor that is utilized for key entry of data.

Data Quality Review: Because data are obtained from an external organization, Data Quality Review procedures are not entirely known. NAHB Research Center indicates that each survey is manually reviewed, a process that requires several months to complete. The review includes data quality checks to ensure that the respondents understood the survey questions and answered the questions appropriately. NAHB Research Center also applies checks for open-ended questions to verify the appropriateness of the answers. In some cases where open-ended questions request numerical information, the data is capped between the upper and lower three percent of the values provided in the survey responses. Also, a quality review of each year's draft report from NAHB Research Center is conducted by the EPA project officer.

Data Limitations: The majority of home builders surveyed are NAHB members. The NAHB Research Center survey also attempts to capture the activities of builders that are not members of NAHB. Home builders that are not members of NAHB are typically smaller, sporadic builders that in some cases build homes as a secondary profession. To augment the list of NAHB members in the survey sample, NAHB Research Center sends the survey to home builders identified from mailing lists of builder trade publications, such as Professional Builder magazine. There is some uncertainty as to whether the survey adequately characterizes the practices of builders who are not members of NAHB. The effects on the findings are not known.

Although an overall response rate of 5.6 percent could be considered low, it is the response rate for the entire survey, of which the radon-resistant new construction questions are only a very small portion. Builders responding to the survey would not be doing so principally due to their radon activities. Thus, a low response rate does not necessarily indicate a strong potential for a positive bias under the speculation that builders using radon-resistant construction would be more likely to respond to the survey. NAHB Research Center also makes efforts to reduce the potential for positive bias in the way the radon-related survey questions are presented.

Error Estimate: See Data Limitations

New/Improved Data or Systems: None

References: The results are published by the NAHB Research Center in annual reports of radon-resistant home building practices; see <http://www.nahbrc.org/>. The most recent report, A Builder Practices Report: Radon Reducing Features in New Construction 2000, Annual Builder and Consumer Practices Surveys by the NAHB Research Center, Inc., January 24, 2002. Similar report titles exist for prior years.

FY 2004 Supporting Performance Measure: People Living in Radon Mitigated Homes

Performance Database: External

Data Source: Radon fan manufacturers report fan sales to the Agency. EPA assumes one fan per radon mitigated home and then multiplies it by the assumed average of 2.67 people per household.

Methods, Assumptions and Suitability: N/A.

QA/QC Procedures: Because data are obtained from an external organization, EPA relies on the business practices for reporting data of the radon fan manufacturers.

Data Quality Review: Data are obtained from an external organization. EPA reviews the data to ascertain their reliability and discusses any irregularities with relevant manufacturer.

Data Limitations: Reporting by radon fan manufacturers is voluntary and may underestimate the number of radon fans sold. Nevertheless, these are the best available data to determine the number of homes mitigated. There are other methods to mitigate radon including: passive mitigation techniques of sealing holes and cracks in floors and foundation walls, installing sealed covers over sump pits, installing one-way drain valves in untrapped drains, and installing static venting and ground covers in areas like crawl spaces. Because there are no data on the occurrence of these methods, there is again the possibility that the number of radon mitigated homes has been underestimated.

When EPA produces an updated version of its Radon Results (1985-1999) report, it will use more/most recent census data, as appropriate.

No radon vent fan manufacturer, vent fan motor maker or distributor is required to report to EPA; they provide data/information voluntarily to EPA. There are only four (4) radon vent fan manufacturers of any significance; one of these accounts for an estimated 70% of the market.

Error Estimate: N/A.

New/Improved Data or Systems: None

References: See <http://www.epa.gov/iaq/radon/pubs/index.html> for National performance/progress reporting (National Radon Results: 1985-1999) on radon, measurement, mitigation and radon-resistant new construction.

FY 2004 Supporting Performance Measure: Number of people with asthma who have taken steps to reduce their exposure to indoor environmental asthma triggers.

Performance Database: National telephone survey (National Survey on Environmental Management of Asthma) of a representative sample of 87,652 households, expected to produce 7,889 eligible individuals (based on the number households predicted to have occupants with asthma).

Data Source: EPA is the data source. The survey, which has received Office of Management and Budget clearance, seeks information about the measures taken by people with asthma (and parents of children with asthma) to minimize exposure to indoor environmental asthma triggers. All of the questions asked are linked to the survey's objective of determining the extent to which indoor environmental management measures are used by these individuals.

Methods, Assumptions and Suitability: EPA has designed a questionnaire in which the respondents are asked to provide primarily yes/no responses. In some cases, respondents are given a range of responses in the form of multiple choice questions and are asked to indicate the one which best defines their response. The survey seeks information on those environmental management measures that the Agency considers important in reducing an individual's exposure to known indoor environmental asthma triggers. By using yes/no and multiple choice questions, the Agency has substantially reduced the amount of time necessary for the respondent to complete the survey and has ensured consistency in data response and interpretation.

The survey instrument was developed in consultation with staff from EPA's Indoor Environments Division (IED), EPA's Regional offices, and the National Center for Health Statistics (NCHS) to ensure that respondents will understand the questions asked and will provide the type of data necessary to measure the Agency's objectives.

EPA estimates that of the 87,652 households which make up the sampling frame, 60 percent, or 52,591, will be contacted successfully and will agree to participate in the screening survey. Of these 52,591 individuals, EPA expects that 15 percent, or 7,889 individuals, will either have asthma or live with someone who does. Only those individuals who have asthma or live with someone who does are considered to be eligible respondents.

QA/QC Procedures: Survey is designed in accordance with approved Agency procedures. Additional information is available on the Internet: <http://www.epa.gov/icr/players.html>

Data Quality Review: EPA reviews the data to ascertain their reliability and resolves any discrepancies.

Data Limitations: Random digit dialing methodology is used to ensure that a representative sample of households has been contacted; however, the survey is subject to inherent limitations of voluntary telephone surveys of representative samples. Limitations of phone surveys include: 1) inconsistency of interviewers following survey directions. For example, an interviewer might: ask the questions incorrectly or inadvertently lead the interviewee to a response; or 2) call at an inconvenient time. For example, the respondent might not want to be interrupted at the time of the call and may resent the intrusion of the phone call. The answers will reflect this attitude.

This survey will be used to gain information regarding the number of individuals with asthma that have taken steps to improve the quality of their indoor environment as part of their approach to managing the disease, as well as any barriers they may have encountered while attempting to do so.

Error Estimate: For each sample subset, the Agency expects to achieve results within three percentage points of the true value at the 90 percent confidence level. EPA feels that these precision rates will be more than adequate to characterize the extent to which the results measured by the survey are true characteristics of our nation's asthmatic population.

New/Improved Data or Systems: None

References: There is no website specifically relating to the survey. Inquiries may be made directly to the EPA Office of Indoor Environments. However, asthma information can be obtained at <http://www.epa.gov/iaq/asthma/index.html>

FY 2004 Supporting Performance Measure: Children under 6 not Exposed to Environmental Tobacco Smoke (ETS) in the Home

Performance Database: National telephone survey (National Survey on Environmental Management of Asthma) of a representative sample of 87,652 homes, expected to produce responses from 52,591 households, who will respond to a question about whether they allow smoking in their home, and if so, whether young children are in the household.

Data Source: EPA is the data source. The ETS survey, which has received Office of Management and Budget clearance, seeks information about how many people permit smoking in their home. The information is obtained during the screening phase of the larger asthma survey.

Methods, Assumptions and Suitability: EPA has designed the asthma survey questionnaire in which the respondents are asked to provide primarily yes/no responses. By using yes/no and multiple choice questions, the Agency has substantially reduced the amount of time necessary for the respondent to complete the survey and has ensured consistency in data response and interpretation.

The survey instrument was developed in consultation with staff from EPA's IED, EPA's Regional offices, and the National Center for Health Statistics (NCHS) to ensure that respondents will understand the questions asked and will provide the type of data necessary to measure the Agency's objectives.

EPA estimates that of the 87,652 households which make up the sampling frame, 60 percent, or 52,591, will be contacted successfully and will agree to participate in the screening survey. ETS information will be obtained from these 52,591 individuals. The sample will be large enough to yield the number of responses necessary to achieve a two percent precision rate at the 95 percent confidence

QA/QC Procedures: Survey is designed in accordance with approved Agency procedures. Additional information is available on the Internet: <http://www.epa.gov/icr/players.html>

Data Quality Review: EPA reviews the data to ascertain their reliability and resolves any discrepancies.

Data Limitations: Random digit dialing methodology is used to ensure that a representative sample of households has been contacted; however, survey is subject to inherent limitations of voluntary telephone surveys of representative samples. Limitations of phone surveys include: 1) inconsistency of interviewers following survey directions. For example, an interviewer might ask the questions incorrectly or inadvertently lead the interviewee to a response; 2) calling at an inconvenient time. For example, the respondent might not want to be interrupted at the time of the call and may resent the intrusion of the phone call. The answers will reflect this attitude.

Error Estimate: EPA's survey has been designed to ensure that, at the 95 percent confidence level, its estimate of the number of children under 6 not exposed to ETS in the house is within two percentage points of the true value. EPA is confident that these precision rates are more than adequate.

New/Improved Data or Systems: None

References: There is no website specifically relating to the survey. However, Environmental Tobacco Smoke (ETS) information can be obtained at <http://www.epa.gov/iaq/ets>. The public would need to contact OAR directly.

Performance Database: Survey of representative sample of schools using a comprehensive database of private and public schools. The survey will help determine the number of schools adopting and implementing good indoor air quality (IAQ) practices consistent with EPA's Tools for Schools (TfS) guidance. The survey is being finalized and results are expected in 2003.

Data Source: EPA-developed questionnaire. Other supporting data from the United States Department of Education National Center for Education Statistics.

Methods, Assumptions and Suitability: The design of the IAQ Practices in Schools Survey is a random sample with stratification by geography and school type. Such stratification is expected to decrease the variances of sample estimates and, because of interest in these specific strata, add strength to the survey design. Additional data from other sources, such as the United States Department of Education National Center for Education Statistics, will facilitate analysis and interpretation of survey results.

QA/QC Procedures: Survey is designed in accordance with approved Agency procedures. Additional information is available on the Internet: <http://www.epa.gov/icr/players.html>

Data Quality Review: EPA reviews data for completeness and quality of responses.

Data Limitations: Subject to inherent limitations of survey sampling.

Error Estimate: N/A.

New/Improved Data or Systems: Prior to the survey, EPA simply tracked the number of schools receiving the TfS guidance and estimated the population of the school to determine the number of students/staff experiencing improved indoor air quality. With this survey, EPA is querying a statistically representative sample of schools, to estimate the number of schools that have actually adopted and implemented good IAQ management practices consistent with the TfS guidance.

References: See the United States Department of Education National Center for Education Statistics, <http://nces.ed.gov/>. See also Indoor Air Quality Tools for Schools Kit (402-K-95-001) at <http://www.epa.gov/iaq/schools>. There is no website specifically relating to the survey. Inquiries may be made directly to the EPA Office of Indoor Environments.

Statutory Authorities

Radon Gas and Indoor Air Quality Research Act of Title IV of the Superfund Amendments and Re-authorization Act (SARA) of 1986

Toxic Substances Control Act (TSCA), section 6, Titles II, and Title III (15 U.S.C. 2605 and 2641-2671)

Federal Insecticide, Fungicide and Rodenticide Act (FIFRA)

Clean Air Act (CAA)

Safe Drinking Water Act (SDWA)

Objective 5: Facilitate Prevention, Reduction and Recycling of PBTs and Toxic Chemicals

By 2005, facilitate the prevention, reduction, and recycling of toxic chemicals and municipal solid wastes, including PBTs. In particular, reduce by 20 percent the actual (from 1992 levels) and by 30 percent the production-adjusted (from 1998 levels) quantity of Toxic Release Inventory (TRI)-reported toxic pollutants which are released, disposed of, treated, or combusted for energy recovery, half through source reduction.

Resource Summary (Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Facilitate Prevention, Reduction and Recycling of PBTs and Toxic Chemicals	\$48,461.0	\$46,115.9	\$49,958.2	\$3,842.3
Environmental Program & Management	\$38,628.1	\$36,122.0	\$39,950.6	\$3,828.6
State and Tribal Assistance Grants	\$9,832.9	\$9,993.9	\$10,007.6	\$13.7
Total Workyears	180.5	196.0	194.5	-1.5

Key Program (Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
ATSDR Superfund Support	\$654.3	\$0.0	\$0.0	\$0.0
Congressionally Mandated Projects	\$1,700.0	\$0.0	\$0.0	\$0.0
Design for the Environment	\$4,707.6	\$4,810.7	\$4,880.6	\$69.9
Facilities Infrastructure and Operations	\$2,726.4	\$2,779.1	\$2,936.7	\$157.6
Legal Services	\$70.2	\$197.8	\$203.5	\$5.7
Management Services and Stewardship	\$478.1	\$493.4	\$442.5	(\$50.9)
New Chemical Review	\$1,611.6	\$1,606.4	\$1,591.2	(\$15.2)
PBTI	\$2,572.5	\$2,580.5	\$2,419.0	(\$161.5)
Pollution Prevention Incentive Grants to States	\$5,986.3	\$5,986.3	\$6,000.0	\$13.7

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Pollution Prevention Program	\$9,597.8	\$9,902.8	\$10,626.9	\$724.1
RCRA State Grants	\$4,007.6	\$4,007.6	\$4,007.6	\$0.0
RCRA Waste Reduction	\$14,633.7	\$13,740.7	\$16,850.2	\$3,109.5
Regional Management	\$9.3	\$10.6	\$0.0	(\$10.6)

Annual Performance Goals and Measures

Reducing PBTs in Hazardous Waste Streams

In 2004 Reduce waste minimization priority list chemicals in hazardous waste streams an additional 3% (for a cumulative total of 46% or 81 million pounds) by expanding the use of State and industry partnerships and Regional pilots.

In 2003 Reduce waste minimization priority list chemicals in hazardous waste streams by 43% to 86 million pounds by expanding the use of state and industry partnerships and Regional pilots

In 2002 FY 2002 data is currently not available. Data will be available in December 2003.

Performance Measures:

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Percentage reduction in generation of priority list chemicals from 1991 levels.	not available	3%	3%	reduction

Baseline: The target for FY 2002 was for a reduction of 40% (91.2 million pounds) from the 1990 levels. Data will be available in December 2003.

Municipal Solid Waste Source Reduction

In 2004 Divert an additional 1% (for a cumulative total of 33% or 79 million tons) of municipal solid waste from land filling and combustion, and maintain per capita generation of RCRA municipal solid waste at 4.5 pounds per day.

In 2003 Divert an additional 1% (for a cumulative total of 32% or 74 million tons) of municipal solid waste from land filling and combustion, and maintain per capita generation of RCRA municipal solid waste at 4.5 pounds per day.

In 2002 FY 2002 data is currently not available for the diversion of municipal solid waste from land filling and combustion or maintaining per capita generation of RCRA municipal solid waste. Analysis of FY 2002 data is anticipated by September 2004.

Performance Measures:

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Millions of tons of municipal solid waste diverted.	not available	74	79	million tons
Daily per capita generation of municipal solid waste.	not available	4.5	4.5	lbs. MSW

Baseline: An analysis conducted in FY 2000 shows 70 million tons (30%) of municipal solid waste diverted and 4.5 lbs. of MSW per person daily generation.

Reduction of Industrial / Commercial Chemicals

In 2004 Prevent, reduce and recycle hazardous industrial/commercial chemicals and municipal solid wastes

In 2003 The quantity of Toxic Release Inventory (TRI) pollutants released, disposed of, treated or combusted for energy recovery in 2003, (normalized for changes in industrial production) will be reduced by 200 million pounds, or 2%, from 2002. This data will be reported in 2005.

In 2002 Data Lag

Performance Measures:

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Reduction of TRI non-recycled waste (normalized)	Not Available	200 Million	200 Million	lbs

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Alternative feed stocks, processes, or safer products identified through Green Chemistry Challenge Award			210	Prod/proc (cum)
Number of participants in Hospitals for a Healthy Environment			2000	Participants
Quantity of hazardous chemicals/solvents eliminated through the Green Chemistry Challenge Awards Program			150 million	lbs
For eco-friendly detergents, track the number of laundry detergent formulations developed.			36	formulations

Baseline: The baseline for the TRI non-recycled wastes measure is the amount of non-recycled wastes reported in FY2003. The baseline for eco-friendly detergents is 0 formulations in 1997. The baseline for the alternative feed stocks / processes measure is zero in 2000. The baseline for the quantity of hazardous chemicals / solvents measures is zero pounds in the year 2000. The baseline for the hospitals measure is zero in FY2001.

Verification and Validation of Performance Measures

Performance Measure: Reduction of TRI non-recycled wastes from FY 2003.

Performance Database: TRIM: Toxics Release Inventory Modernization, formerly **TRIS** (Toxics Release Inventory System) provides facility/chemical-specific data quantifying the amount of TRI-listed chemicals entering wastes associated with production process in each year. The total amount of each chemical in production-related wastes can be broken out by the methods employed in managing such wastes, including recycling, energy recovery, treatment, and disposal/release. Amounts of these wastes not recycled are tracked for this performance measure.

Data Source: Regulated facilities report facility-specific, chemical-specific release, waste and recycling data to EPA. For example, in calendar year 1999, 22,639 facilities filed 84,068 TRI reports.

Methods, Assumptions, and Suitability: TRI data is collected as required by sections 313 of EPCRA and 6607 of Pollution Prevention Act (PPA) (40 CFR '372; www.epa.gov/tri/). Only certain facilities in specific Standard Industrial Classification (SIC) codes are required to report annually the quantities of over 650 listed toxic chemicals and chemical categories released to each environmental medium and otherwise managed as waste (40 CFR ' 372; www.epa.gov/tri/). Regulation requires covered facilities to use monitoring, mass balance, emission factors and/or engineering calculations approaches to estimate releases and recycling volumes. For purposes of this performance measure, data controls are employed to facilitate cross-year comparisons: a subset of chemicals and sectors are assessed that are consistently reported in all years; data are normalized to control for changes in production using published United States Department of Commerce economic indices.

QA/QC Procedures: Most facilities use EPA-certified automated Toxics Release Inventory (TRI) FORM R reporting tools, which contains automated error checking mechanisms. Upon receipt of the facilities' reports, EPA conducts automated edits, error checks, data scrubs, corrections and normalization during data entry and subsequent processing to verify that the information provided by the facilities is correctly entered in TRIM. The Agency does not control the quality of the data submitted by the regulated community. EPA does, however, work with the regulated community to improve the quality of their estimates.

Data Quality Review: The quality of the data contained in the TRI chemical reports is dependent upon the quality of the data that the reporting facility uses to estimate its releases and other waste management quantities. Use of TRI Form R by submitters and EPA's performance data reviews combine to help assure data quality. The GAO Report, Environmental Protection: EPA Should Strengthen Its Efforts to Measure and Encourage Pollution Prevention (GAO - 01 - 283), recommends that EPA strengthen the rule on reporting of source reduction activities. Although EPA agrees that source reduction data are valuable, the Agency has not finalized regulations to improve reporting of source reduction activities by TRI-regulated facilities. From the various data quality efforts, EPA has learned of several reporting issues such as incorrect assignment of threshold activities and incorrect assignment of release and other waste management quantities (EPA-745-F-93-001; EPA-745-R-98-012; www.epa.gov/tri/tridata/data_quality_reports/index.htm; www.epa.gov/tri/report/index.htm.) For example, certain facilities incorrectly assigned a 'processing' (25,000 lb) threshold instead of an 'otherwise use' (10,000 lb) threshold for certain non-persistent, bioaccumulative and toxic (PBT) chemicals, so they did not have to report if their releases were below 25,000 lbs. Also, for example, some facilities incorrectly reported fugitive releases instead of stack releases of certain toxic chemicals.

Data Limitations: Use of the data should be based on the user's understanding that the Agency does not have direct assurance of the accuracy of the facilities' measurement and reporting processes. TRI release data are reported by facilities on a good faith, best-estimate basis. EPA does not have the resources to conduct on-site validation of each facility's reporting data, though on-site investigations do occur each year at a subset of reporting facilities.

Error Estimate: From the various data quality efforts, EPA has learned of several reporting issues such as incorrect assignment of threshold activities and incorrect assignment of release and other waste management quantities (EPA-745-F-93-001; EPA-745-R-98-012; <http://www.epa.gov/tri/report/index.htm>; www.epa.gov/tri/tridata/data_quality_reports/index.htm; www.epa.gov/tri/report/index.htm

New/Improved Data or Systems: EPA plans to develop regulations for improving reporting of source reduction activities by TRI reporting facilities.

References: www.epa.gov/tri/ and additional citations provided above. (EPA-745-F-93-001; EPA-745-R-98-012; <http://www.epa.gov/tri/report/index.htm>; www.epa.gov/tri/tridata/data_quality_reports/index.htm; www.epa.gov/tri/report/index.htm

Performance Measure: Millions of tons of municipal solid waste diverted

Performance Database: Data are provided by the Department of Commerce. EPA does not maintain a database for this information.

Data Source: The baseline numbers for municipal solid waste source reduction and recycling are developed using a materials flow methodology employing data largely from the Department of Commerce and described in the EPA report titled "Characterization of Municipal Solid Waste in the United States." The Department of Commerce collects solid waste generation and recycling rate data from various industries.

Methods, Assumptions and Suitability: Data on domestic production of materials and products are compiled using published data series. United States Department of Commerce sources are used where available, but in several instances more detailed information on production of goods by end-use is available from trade associations. The goal is to obtain a consistent historical data series for each product and/or material. Data on average product lifetimes are used to adjust the data series. These estimates and calculations result in a material-by-material and product-by-product estimate of MSW generation, recovery, and discards.

QA/QC Procedures: Quality assurance and quality control are provided by the Department of Commerce's internal procedures and systems. The report prepared by the Agency, "Characterization of Municipal Solid Waste in the United States," is then reviewed by a number of experts for accuracy and soundness.

Data Quality Review: The report, including the baseline numbers and annual rates of recycling and per capita municipal solid waste generation, is widely accepted among experts. There are various assumptions factored into the analysis to develop estimates of MSW generation, recovery and discards.

Data Limitations: Non-hazardous waste data limitations stem from the fact that the baseline statistics and annual rates of recycling and per capita municipal solid waste generation are based on a series of models, assumptions, and extrapolations and, as such, are not an empirical accounting of municipal solid waste generated or recycled.

Error Estimate: N/A. Currently, the Office of Solid Waste (OSW) does not collect data on estimated error rates.

New/Improved Data or Systems: Because the statistics on MSW generation and recycling are widely reported and accepted by experts, no new efforts to improve the data or the methodology have been identified or are necessary. EPA plans to develop regulations for improving reporting of source reduction activities by TRI reporting facilities.

References: *Municipal Solid Waste in the United States: 1999 Facts and Figures*, EPA, July 2001 (EPA 530-R-01-014), <http://www.epa.gov/osw/index.htm>

FY 2004 Performance Measure: Quantity of hazardous chemicals/solvents eliminated through the Green Chemistry Challenge Awards Program and Number of alternative feedstocks, processes or safer products identified through Green Chemistry Challenge Awards Program

Performance Database: EPA is developing an electronic database ("metrics" database) which will allow organized storage and retrieval of green chemistry data submitted to the agency on alternative feedstocks, processes, and safer chemicals. The database is being designed to store and retrieve in systematic fashion information on the environmental benefits and, where available, economic benefits that these alternative green chemistry technologies offer. The database is also being designed to track the quantity of hazardous chemicals and solvents eliminated through implementation of these alternative technologies.

Data Source: Industry and academia submit nominations annually to EPA in response to the Presidential Green Chemistry Challenge Awards.

Methods, Assumptions, and Suitability: This is an output measure tracked directly through Office of Pollution Prevention and Toxics (OPPT) record-keeping systems. No models or assumptions or statistical methods are employed.

QA/QC Procedures: Data undergo a technical screening review by EPA before being uploaded to the database to determine whether data submitted adequately support the environmental benefits described. Subsequent to Agency screening, data is reviewed by an external independent technical expert panel. Additional comments provided by this panel are incorporated into the database. This panel is convened primarily for judging nominations submitted to the Presidential Green Chemistry Challenge Awards Program and selecting winning technologies.

Data Quality Review: Review of industry and academic data as documented in United States EPA, Office of Pollution Prevention and Toxics, Green Chemistry Program Files available at <http://www.epa.gov/opptintr/greenchemistry/>

Data Limitations: Occasionally data are limited for a given technology due to confidential business information (the Presidential Green Chemistry Challenge Awards Program does not process CBI). Occasionally, the percentage of market penetration of implemented alternative green chemistry technology (potential benefits versus realized benefits) is unclear. In these cases, the database is so noted.

Error Estimate: N/A.

New/Improved Data or Systems: None.

References: <http://www.ams.usda.gov/science/pdp/index.htm>.

FY 2004 Performance Measure: Number of participants in the Hospitals for a Healthy Environment Mercury Project

Performance Database: EPA, in cooperation with its institutional partners, operates a voluntary program whereby hospitals and associated industries can voluntarily sign up to become an H2E Partner (hospitals) or Champion (associated industries). The purpose of the H2E Program is to reduce mercury emissions and waste at hospitals.

Data Source: Sign-up forms from participating H2E institutions.

Methods, Assumptions, and Suitability: The sign-up program is the first step for a hospital or associated industry to participate in the H2E. No assumptions or models are employed.

QA/QC Procedures: H2E staff contact each participant to confirm their sign-up, and welcome them to the program.

Data Quality Reviews: N/A.

Data Limitations: Data limited to name of facility, contact person and information.

Error Estimate: N/A.

New/Improved Data or Systems: Database will be expanded after H2E receives ICR approval.

References: United States EPA Office of Pollution Prevention and Toxics, Hospitals for a Healthy Environment Program (H2E). Program information and data available at <http://www.h2e-online.org/about/index.htm>

FY 2004 Performance Measure: The number of eco-friendly laundry detergents developed.

Performance Database: Information on laundry detergent ingredients is supplied on a proprietary basis by formulator companies. Information on potential safer substitute ingredients as identified by the formulator is held proprietary as well.

Data Source: Laundry detergent manufacturers. General information on chemicals in detergent component classes; source of potential safer substitutes.

Methods, Assumptions, and Suitability: Assume that formulator companies determine performance of eco-friendly detergents.

QA/QC Procedures: Formulator companies report periodically on the status of their formulations and notify DfE in advance of potential ingredient changes.

Data Quality Reviews: N/A.

Data Limitations: N/A.

Error Estimate: N/A.

New/Improved Data or Systems: Formulator companies notify DfE of Agency-approved changes in detergent ingredients.

References: N/A.

Statutory Authorities

Toxic Substances Control Act (TSCA) sections 4 and 6 and TSCA Titles II, III, and IV (15 U.S.C. 2605 and 2641-2692)

Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) sections 3, 4, 5, 6, 11, 18, 24, and 25 (7 U.S.C. 136a, 136a-1, 136c, 136d, 136i, 136p, 136v, and 136w)

Pollution Prevention Act (PPA) (42 U.S.C. 13101-13109)

Clean Air Act (CAA) section 309 (42 U.S.C. 7609)

Clean Water Act (33 U.S.C. 1251-1387)

Emergency Planning and Community Right-to-Know Act (EPCRA) (42 U.S.C. 11001-11050)

Resource Conservation and Recovery Act (RCRA) (42 U.S.C. 6901-6992k)

Solid Waste Disposal Act as amended by the Hazardous Waste Amendments of 1984.

Objective 6: Assess Conditions in Indian Country

By 2005, EPA will assist all Federally recognized tribes in assessing the condition of their environment, help in building tribes' capacity to implement environmental management programs, and ensure that EPA is implementing programs in Indian country where needed to address environmental issues

Resource Summary (Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Assess Conditions in Indian Country	\$64,326.3	\$70,909.4	\$76,435.2	\$5,525.8
Environmental Program & Management	\$13,163.6	\$13,439.7	\$13,935.2	\$495.5
State and Tribal Assistance Grants	\$51,162.7	\$57,469.7	\$62,500.0	\$5,030.3
Total Workyears	98.9	90.7	91.3	0.6

Key Program (Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
American Indian Environmental Office	\$9,911.6	\$10,219.7	\$10,665.9	\$446.2
Facilities Infrastructure and Operations	\$1,165.4	\$1,250.3	\$1,154.4	(\$95.9)
Legal Services	\$1,383.0	\$1,428.7	\$1,470.8	\$42.1
Management Services and Stewardship	\$426.9	\$475.5	\$518.1	\$42.6
Regional Management	\$80.0	\$65.5	\$126.0	\$60.5
Tribal General Assistance Grants	\$52,469.7	\$57,469.7	\$62,500.0	\$5,030.3

Annual Performance Goals and Measures

Tribal Environmental Baseline/Environmental Priori

In 2004	Percent of Tribes will have an environmental presence (e.g., one or more persons to assist in building Tribal capacity to develop and implement environmental programs.
In 2003	In 2003, AIEO will evaluate non-Federal sources of environmental data pertaining to conditions in Indian Country to enrich the Tribal Baseline Assessment Project.
In 2002	A cumulative total of 331 environmental assessments have been completed.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Percent of Tribes with delegated and non-delegated programs (cumulative).			5%	Tribes
Percent of Tribes with EPA-reviewed monitoring and assessment occurring (cumulative).			20%	Tribes
Percent of Tribes with EPA-approved multimedia workplans (cumulative).			18%	Tribes
Environmental assessments for Tribes. (cumulative)	331			Tribes, etc.
Non-federal sources of environmental data pertaining to conditions in Indian Country.		20		Data sources

Baseline: There are 572 tribal entities that are eligible for GAP program funding. These entities are the ones for which environmental assessments of their lands will be conducted.

Verification and Validation of Performance Measures

FY 2004 Performance Measure: Tribes with an environmental presence.

Performance Database: An environmental presence for a tribe implies the development of the capacity to implement environmental programs: to assess environmental conditions, to establish environmental priorities, and then to manage programs that result in improvement of the environment. The American Indian Environmental Office (AIEO) has made tremendous progress in developing an electronic baseline assessment system used to access tribal environmental information and to track the progress of the development of an environmental presence in Indian country. The Tribal Information Management System (TIMS) provides the capability for each tribe to understand and effectuate program priorities to build a strong, sustainable environment for the future based upon sound, quality information.

TIMS is a web-based application used to access Baseline Assessment Project environmental information on Federally recognized Indian tribes. The site is located at <https://oasint.rtpnc.epa.gov>. Public access to this information via the web cannot be provided until EPA completes consultation with the tribes, but is expected within the next year. TIMS contains information about the condition of the environment for a tribe, the nature and status of regulated facilities on tribal lands, and the nature and extent of tribal environmental management program activities. TIMS is not a static document. It is a real-time system that extracts information from EPA and external data systems as they are maintained and updated by various Federal, non-Federal, and tribal partners. TIMS is also a vehicle for tribes, Federal agencies and non-Federal agencies, to develop partnerships, improve communication, and to establish tribal environmental priorities in a coordinated, multimedia, and interagency way.

The outputs of TIMS serve many purposes, such as: (1) allows EPA to accurately assess the establishment of an environmental presence in Indian country in a data rich and meaningful way, and to report that result annually as a measure of performance goals; (2) allows EPA to measure trends and changes in environmental conditions and program results over time; and, (3) provides information for tribes and agencies to establish environmental priorities in a coordinated fashion.

Data Sources: Current TIMS data sources are existing Federal databases, both from EPA and other agencies, supplemented by data sources collected from the EPA regions as appropriate. All data sources are identified and referenced in the TIMS application. In FY 2003, AIEO will analyze data from 20 non-Federal data sources for enrichment of the Tribal Baseline Assessment Project. In particular, the integration of data sources from Federal, non-Federal and tribal partners will be used to assess environmental conditions and environmental vulnerabilities for Alaska Native Villages. Building upon these accomplishments, in FY 2004 we expect to formalize interagency data standards and protocols, working with the Federal Geographic Data Committee (FGDC) formed as a result of OMB Circular A-16, to ensure information is collected and reported consistently among the Federal agencies.

Methods, Assumptions and Suitability: The methodology for developing assessments of environmental conditions in Indian country will be standard statistical methods of analysis of variance. Chi Square and Fisher linear model techniques will be used to evaluate the statistical significance of comparisons of tribal conditions, with regard to specific environmental parameters, compared to the nation as a whole. The data used to develop these statistical inferences are in general non-aggregated point measurements that have been geographically indexed. Sample sizes are generally large enough (often in the hundreds of thousands when evaluating parameters such as regulated facilities) to provide the necessary degrees of freedom to make statistical inferences in spite of the large variance in sizes of reservations in Indian country. The data are suitable for year-to-year performance comparisons, and also for trend analysis. Forecasting technologies have not yet been tested on the data.

QA/QC Procedures: All the data used in the baseline project have quality assurance and metadata documentation prepared by the originating agency. These will all be described in a Quality Management document: "Manual to TIMS: Tribal Information Management System." AIEO will standardize data and metadata standards established by the Federal Geographic Data Committee.

Data Quality Reviews: Quality of the external databases will be described but not ranked. Data correction and improvement is an ongoing part of the baseline assessment project. Tribes will have the opportunity to review and comment upon their Tribal Profile. Mechanisms for adjusting data will be supplied. Errors in the tribal profile are subject to errors in the underlying data. The baseline project has developed a special site <http://db-server.tetrattech-ffx.com/baseline/datacenter> which will be used to: 1) allow direct editing and correction of text of the narrative profiles, 2) submit geographic corrections to maps and boundary files, or to submit files of different kinds of political units for analysis, and 3) submit corrections to quantitative data points, and 4) display the bibliography of documents used to compile the TIMS information system, including PDF scans of many of the documents.

Data Limitations: The largest part of the data used by the baseline assessment project has not been coded to particular tribes by the recording agency. AIEO uses new geographic data mining technologies to extract records based on the geographical coordinates of the data points. For example, if a regulated facility has latitude and longitude coordinates that place it in the boundaries of the Wind River Reservation, then it is assigned to the Arapaho and Shoshone Tribes of the Wind River Reservation. This technique is extremely powerful, because it "tribally enables" large numbers of information systems which were previously incapable of identifying tribes. This will be applied to all the EPA databases. There are limitations, however. When database records are not geographically identified with latitude and longitude, the technique does not work and the record is lost to the system. Likewise, the accuracy of the method depends on the accuracy of the reservation boundary files. EPA continues to request up-to-date and accurate coverage of reservation boundaries and land status designations from other agencies.

Error Estimate: Analysis of variation of the various coverage of reservation boundaries that are available to EPA indicates deviations of up to 5%. The other source of error comes from records that are not sufficiently described geographically for assignment to specific tribes. For some agencies, such as USGS, the geographic record is complete, so there is no error from these sources. It is estimated that 20% of the regulated facilities in EPA regulatory databases are not geographically described, and thus will not be recognized by the AIEO methodology.

New/Improved Data or Systems: The technologies used by the baseline assessment project are all new and state of the art. Everything is delivered on the Internet, with security, and no need for any special software or data disk on the desktop. The geographic interface is an ESRI product called ARC/IMS, which is a web-based application, with a fully functional GIS system that is fully scalable. In FY 2003, the entire system will be rendered in 3D. The baseline project uses XML protocols to attach to and display information seamlessly and in real time from cooperating agency data systems without ever having to download the data to some intermediate server. Finally, the baseline assessment project has developed web based, secure program inputting systems that allow regional project officers to track programs and input programmatic data that directly feed into the TIMS reports, performance reporting systems, and other customizable reports.

References:

Manual to TIMS: Tribal Information Management System (draft).

http://www.epa.gov/enviro/html/bia/tribal_em.html

<https://oasint.rtpnc.epa.gov/TIMS>

<http://db-server.tetrattech-ffx.comn/baseline/datacenter>

<https://oasint.rtpnc.epa.gov/TATS>

<http://gap-demo.tetrattech-ffx.com>

Statutory Authorities

Indian Environmental General Assistance Program (GAP)

Act of 1992 as amended (42 U.S.C. 4368b)